Inc. Standard 19 or Federal Specification ZZ-H-451E. Hose that bears the label of Underwriters' Laboratories, Inc. as lined firehose is accepted as conforming to this requirement.

[CGFR 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGD 74-60, 41 FR 43151, Sept. 30, 1976; CGD 76-086, 44 FR 2392, Jan. 11, 1979; CGD 88-032, 56 FR 35826, July 29, 1991; CGD 95-012, 60 FR 48051, Sept. 18, 1995; CGD 95-027, 61 FR 26007, May 23, 1996; CGD 95-028, 62 FR 51206, Sept. 30, 1997; USCG-2000-7790, 65 FR 58461, Sept. 29, 2000]

§ 95.10-15 Piping.

- (a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.
- (b) All distribution cut-off valves shall be marked as required by §97.37–10 of this subchapter.
- (c) For vessels on an international voyage, the diameter of the fire main shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously. This requirement is in addition to §95.10–5(c). The discharge of this quantity of water through hoses and nozzles at a sufficient number of adjacent hydrants shall be at a minimum Pitot tube pressure of approximately 50 pounds per square inch.

§ 95.10-90 Installations contracted for prior to May 26, 1965.

Installations contracted for prior to May 26, 1965, shall meet the following requirements:

(a) Except as specifically modified by this paragraph, the requirements of §§ 95.10-5 through 95.10-15 shall be complied with insofar as the number and general type of equipment is concerned. Existing equipment, except firehose nozzles and low-velocity water spray applicators, previously approved, but not meeting the applicable requirements of §§ 95.10-5 through 95.10-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installations. However, all new installations or major replacements shall meet the applicable requirements in this subpart.

(b) All vessels contracted for prior to November 19, 1952, other than motorboats, shall be fitted with fire pumps, hoses, and nozzles in accordance with Table 95.10–90(a)(2).

TABLE 95.10-90(a)(2)

Gross tons		Min-	Min- imum		
Over	Not over	imum number of pumps	hose and hy- drant size, inches	Nozzle orifice size, inches	Length of hose feet
100 1,000	100 1,000	1 1 2	1 1½ 2 1½ 2 1½ 2 1½	1 5/16 2 5/8 2 5/8	150 250 250

¹ On vessels of 65 feet in length or less, ¾-inch hose of good commercial grade together with a commercial garden hose nozzle may be used. The pump may be hand operated and the length of hose shall be sufficient to assure coverage of all parts of the vessel.
² May use 50 feet of 2½-inch hose with ¾-inch nozzles for stratery tables 75 feet of 11½ inch hose with ¼-inch sezzles.

² May use 50 feet of 2½-inch hose with 7½-inch nozzles for exterior stations. 75 feet of 1½-inch hose with 5½-inch nozzles may be used for interior station in which case such interior stations shall have siamese connections.

- (c) Vessels contracted for prior to July 1, 1935, need not meet the requirements of §95.10–5(h), and vessels contracted for on or after July 1, 1935, but prior to November 19, 1952, may have a carbon dioxide "bilge" in lieu of "total flooding" system. However, in vessels of both categories where a conversion from coal to oil is contracted for on or after November 19, 1952, the provisions of §95.10–5(h) shall apply.
- (d) The general requirements of §95.10-5(c) through (g), §95.10-10(d) through (i), and §95.10-15 shall be complied with insofar as is reasonable and practicable.
- (e) Firehose nozzles and low-velocity spray applicators must meet the requirements of 95.10–10(i), 95.10–10(j), and 95.10–10(k).

[CGFR 65-50, 30 FR 17001, Dec. 30, 1965, as amended by CGD 76-086, 44 FR 2392, Jan. 11, 1979; CGD 95-027, 61 FR 26007, May 23, 1996]

Subpart 95.13—Steam Smothering Systems

§95.13-1 Application.

Steam smothering systems are not permitted on vessels contracted for on or after January 1, 1962. Previously approved installations may be retained as long as they are maintained in good

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condition to the satisfaction of the Officer in Charge, Marine Inspection.

[CGD 95-027, 61 FR 26007, May 23, 1996]

Subpart 95.15—Carbon Dioxide Extinguishing Systems, Details

§95.15-1 Application.

- (a) Where a carbon dioxide extinguishing system is installed, the provisions of this subpart, with the exception of §95.15–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of §95.15–90
- (b) The requirements of this subpart are based on a "high pressure system," i.e., one in which the carbon dioxide is stored in liquid form at atmospheric temperature. Details for "low pressure systems," i. e., those in which the carbon dioxide is stored in liquid form at a continuously controlled low temperature, may be specifically approved by the Commandant where it is demonstrated that a comparable degree of safety and fire extinguishing ability is achieved.

§95.15-5 Quantity, pipe sizes, and discharge rates.

- (a) General. The amount of carbon dioxide required for each space shall be as determined by paragraphs (b) through (d) of this section.
- (b) Total available supply. A separate supply of carbon dioxide need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.
- (c) Cargo spaces. (1) The number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space in cubic feet divided by 30.
- (2) Although separate piping shall be led to each cargo hold and 'tween deck, for the purpose of determining the amount of carbon dioxide required, a cargo compartment will be considered as the space between watertight or firescreen bulkheads and from the tank top or lowest deck to the deck head of the uppermost space on which cargo may be carried. If a trunk extends be-

yond such deck, the trunk volume shall be included. Tonnage openings shall be considered as sealed for this purpose.

- (3) Branch lines to the various cargo holds and 'tween decks shall not be less than ³/₄-inch standard pipe size.
- (4) No specific discharge rate need be applied to such systems.
- (d) Machinery spaces, paint lockers, tanks, and similar spaces. (1) Except as provided in paragraph (d)(3) of this section, the number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in Table 95.15-5(d)(1). If fuel can drain from the compartment being protected to an adjacent compartment, or if the compartments are not entirely separate, the requirements for both compartments shall be used to determine the amount of carbon dioxide to be provided. The carbon dioxide shall be arranged to discharge into both such compartments simultaneously.

TABLE 95.15-5(d)(1)

Gross volume of c	Factor			
Over—	Not over—			
500 500 1,600 4,500 50,000	1,600 4,500 50,000	15 16 18 20 22		

- (2) For the purpose of the requirements of this paragraph, the volume of the machinery space shall be taken as exclusive of the normal machinery casing unless the boiler, internal combustion machinery, or fuel oil installation extend into such space, in which case the volume shall be taken to the top of the casing or the next material reduction in casing area, whichever is lower. For installations contracted for on or after October 1, 1959, "normal machinery casing" and "material reduction in casing area" shall be defined as follows:
- (i) By "normal machinery casing" shall be meant a casing the area of which is not more than 40 percent of the maximum area of the machinery space.
- (ii) By "material reduction in casing area" shall be meant a reduction to at least 40 percent of the casing area.